



The Company

Advanced Fluoro Tubes is leading manufacturer of PTFE tubing & SS braided PTFE hoses based in India. We manufacture world class PTFE tubing/hoses in standard and custom sizes to meet our customer requirements. Currently our world class PTFE tubing has been used in applications in automobile, instrumentation, analytical instruments, medical, semiconductor, electrical and chemical process industries.

Our customers work with us right from design stages of their products. We not only manufacture PTFE tubing but also advice customers regarding use of the right materials for an application. We regularly consult customers to solve their technical problem or to improve the product quality and hence improving customer loyalty and retention.

In a recent development we have also added PTFE, PEEK machining capabilities to our portfolio to provide our customers a one stop shop for all their PTFE & PEEK component requirements.

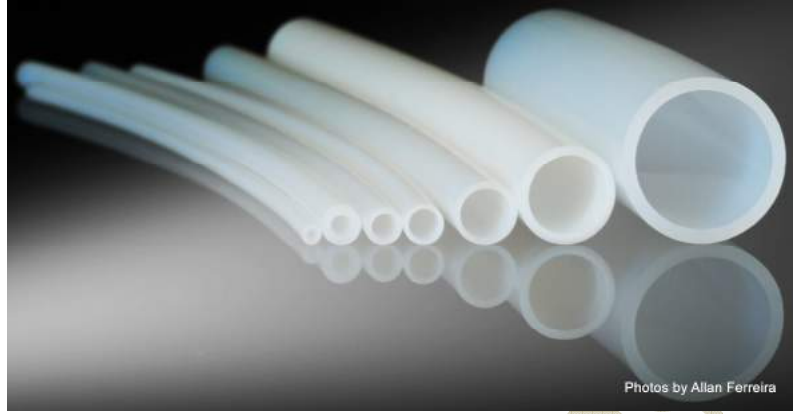
Why work with us?

1. Best quality at reasonable prices.
2. English speaking management who have worked with fortune 500 clients, leading to ease in communicating and delivering as per your expectation.
3. High tubing concentricity & tolerances required for highly specialised applications in instrumentation, semiconductor and medical industry. High concentricity leads to reduced scrap.
4. Massive PTFE tubing diameter range. We are a one stop shop for PTFE tubing.
5. Flexible to work with changing customer requirements.
6. You get access to our wide network of material experts.

Why PTFE Tubing?

- Wide operating temperature range (-60°C to 260°C)
- Inert to virtually all chemicals, solvents, fluxes and oils.
- Resistance to weathering/ageing: unaffected by UV light, resistance to oxidation surface fouling and discolouration.
- Non-flammable(Fire proof)
- High Dielectric strength, suitable for High-Density, High voltage wiring.
- Low permeability.
- Very low coefficient hence extremely non stick.
- Unlimited self life.
- Biocompatible
- Cost effective compared to Alloy 20 and other exotic metals like Hast alloy, Nickel and Titanium.
- Does not contaminate process fluid.

PTFE Tubing Key Features



Continuous Use Temperature

AFT PTFE tubing can withstand significantly higher temperatures than other common plastics. PTFE may be used upto 260 Deg Cel. AFT PTFE tubing can handle live steam and often used as heat exchanger tubing for heating applications in highly corrosive environments. Our PTFE tubing has excellent resistance to cryogenic temperatures.

Electrical Properties

AFT PTFE tubing is extensively used in electrical insulation applications as it has outstanding dielectric strength and is generally the first choice requiring a high voltage breakdown threshold. This property holds even when PTFE tubing is exposed to solvents or liquids. The dissipation factor for PTFE at frequencies upto 10 Hertz is extremely low. This characteristic is effectively utilised in signal transmission equipment and cables.

Chemical Resistance

AFT PTFE tubing is inert to attack by virtually all industrial solvents, acids, bases and other chemicals over a wide range of temperatures. The few exceptions are molten alkali metals, halogenated complexes containing fluorine and molten sodium hydroxide.

Non Stick Property

This is a unique property of AFT PTFE tubing. This feature is employed in a variety of ways, for example, the transport of thick viscous materials such as molasses, batch operations where easy and rapid cleaning is required between batches (paint, for example) and eliminating contamination from particulars or droplets sticking to tube.

Low Friction

The low coefficient of friction of AFT PTFE tubing makes them the material of choice in several applications; for example as a secondary insulation sheath in wire harness or in automotive push pull cable applications.

PTFE Tubing sizes

We offer PTFE tubing in the following sizes

PTFE Tubing Sizes: Thin Wall Electrical Insulation

ASTM D3295-81a, Class B, AMS 3655

AWG	INSIDE DIAMETER				WALL	
	INSIDE DIAMETER (INCH)		INSIDE DIAMETER (INCH)		THICKNESS	
	MIN	MAX	MIN	MAX	INCHES +or-	MM +or-
30	0.01	0.015	0.25	0.38	.009 .002	.229 .051
28	0.013	0.018	0.33	0.48	.009 .002	.229 .051
26	0.016	0.021	0.41	0.53	.009 .002	.229 .051
24	0.02	0.026	0.51	0.66	.010 .002	.254 .051
23	0.023	0.029	0.58	0.74	.010 .002	.254 .051
22	0.026	0.032	0.66	0.81	.010 .002	.254 .051
21	0.029	0.035	0.74	0.89	.012 .002	.305 .051
20	0.032	0.04	0.81	0.97	.012 .003	.305 .076
19	0.036	0.044	0.91	1.06	.012 .003	.305 .076
18	0.04	0.046	1.02	1.17	.012 .003	.305 .076
17	0.045	0.052	1.14	1.32	.012 .003	.305 .076
16	0.051	0.058	1.3	1.47	.012 .003	.305 .076
15	0.057	0.065	1.45	1.65	.012 .003	.305 .076
14	0.064	0.072	1.63	1.83	.012 .003	.305 .076
13	0.072	0.081	1.83	2.06	.012 .003	.305 .076
12	0.081	0.091	2.08	2.31	.012 .003	.305 .076
11	0.091	0.101	2.31	2.57	.012 .003	.305 .076
10	0.102	0.112	2.59	2.84	.012 .003	.305 .076
9	0.114	0.124	2.9	3.15	.015 .003	.381 .076
8	0.129	0.139	3.28	3.53	.015 .003	.381 .076
7	0.144	0.155	3.68	3.94	.015 .003	.381 .076
6	0.162	0.174	4.11	4.42	.015 .003	.381 .076
5	0.182	0.195	4.62	4.95	.015 .003	.381 .076
4	0.204	0.218	5.18	5.54	.015 .003	.381 .076
3	0.229	0.244	5.82	6.19	.015 .003	.381 .076
2	0.258	0.273	6.55	6.93	.015 .003	.381 .076
1	0.289	0.305	7.34	7.75	.015 .003	.381 .076
0	0.325	0.342	8.26	8.69	.015 .003	.381 .076

PTFE Tubing Metric sizes

Order Size	Nominal O.D.		Reference Wall		Nominal I.D.		Working Pressure		Burst Pressure	
	Mm	mm	Inch	Mm	Inch	mm	Inch	Bar/23°C	PSI/72°F	Bar/23°C
3	3	0.118	1	0.039	1	0.039	27	390	134	1950
4	4	0.157	1	0.039	2	0.079	20	290	100	1450
5	5	0.197	1	0.039	3	0.118	15	220	76	1100
6	6	0.236	1	0.039	4	0.157	12	180	62	900
7	7	0.276	1	0.039	5	0.197	10	150	52	750
8	8	0.315	1	0.039	6	0.236	9	130	45	650
9	9	0.354	1	0.039	7	0.275	8	110	38	550
10	10	0.393	1	0.039	8	0.315	7	100	34	500
12	12	0.472	1	0.039	10	0.394	6	80	28	400
14	14	0.551	1	0.039	12	0.472	5	70	24	350
16	16	0.63	1	0.039	14	0.551	4	60	21	300

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PTFE Tubing Fractional sizes

STANDARD WALL AMS3653

FRAC SIZE	INSIDE DIAMETER				WALL THICKNESS	
	INCH		MM		INCHES +or-	MM +or-
	MIN	MAX	MIN	MAX		
1/8	0.12	0.13	3.05	3.3	.020 .004	.508 .101
3/16	0.188	0.198	4.76	5.03	.020 .004	.508 .101
¼	0.25	0.26	6.35	6.6	.020 .004	.508 .101
5/16	0.313	0.332	7.94	8.43	.020 .004	.508 .101
3/8	0.375	0.394	9.53	10	.025 .005	.635 .127
7/16	0.438	0.458	11.11	11.63	.025 .005	.635 .127
½	0.5	0.52	12.7	13.21	.025 .005	.635 .127
5/8	0.625	0.65	15.88	16.51	.025 .005	.635 .127
¾	0.75	0.775	19.05	19.69	.030 .006	.762 .152
7/8	0.875	0.927	22.23	23.55	.035 .007	.889 .178
1	1	1.06	25.4	26.92	.035 .007	.889 .178
1 ¼	1.25	1.325	31.75	33.66	.040 .007	1.016 .178
1 ½	1.5	1.58	38.1	40.13	.045 .007	1.143 .178

THIN WALL AMS 3655

FRAC SIZE	INSIDE DIAMETER				WALL THICKNESS	
	INCH		MM		INCHES +or-	MM +or-
	MIN	MAX	MIN	MAX		
1/8	0.12	0.13	3.05	3.3	.015 .003	.381 .076
3/16	0.188	0.198	4.76	5.03	.015 .003	.381 .076
¼	0.25	0.26	6.35	6.6	.015 .003	.381 .076
5/16	0.313	0.332	7.94	8.43	.015 .003	.381 .076
3/8	0.375	0.394	9.53	10	.015 .003	.381 .076
7/16	0.438	0.458	11.11	11.63	.018 .004	.457 .101
½	0.5	0.52	12.7	13.21	.018 .004	.457 .101
5/8	0.625	0.65	15.88	16.51	.020 .004	.508 .101
¾	0.75	0.775	19.05	19.69	.025 .005	.635 .127

LIGHT WALL AMS3654

FRAC SIZE	INSIDE DIAMETER				WALL THICKNESS	
	INCH		MM		INCHES +or-	MM +or-
	MIN	MAX	MIN	MAX		
1/8	0.125	0.135	3.18	3.43	.008 .002	.203 .051
3/16	0.188	0.198	4.76	5.03	.010 .003	.254 .076
¼	0.25	0.26	6.35	6.6	.010 .003	.254 .076
5/16	0.313	0.332	7.94	8.43	.012 .003	.305 .076
3/8	0.375	0.394	9.53	10	.015 .005	.381 .127
7/16	0.438	0.458	11.11	11.63	.018 .005	.457 .127
½	0.5	0.52	12.7	13.21	.018 .005	.457 .127
5/8	0.625	0.65	15.88	16.51	.020 .005	.508 .127
¾	0.75	0.775	19.05	19.69	.020 .005	.508 .127

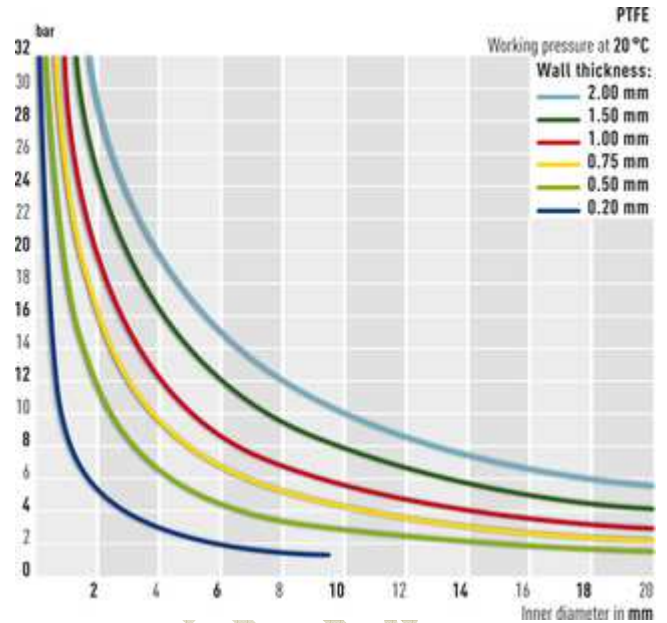
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PTFE Tubing: Pressure Resistance

Use the following chart to calculate recommended working pressure rating for a PTFE tubing size :



PTFE Tubing Minimum Bend Radius

Bend radius is important when PTFE tubing needs to fit in tight spaces in devices. Bending the tube too much might kink it causing a weak point leading sub optimal performance of the tube.

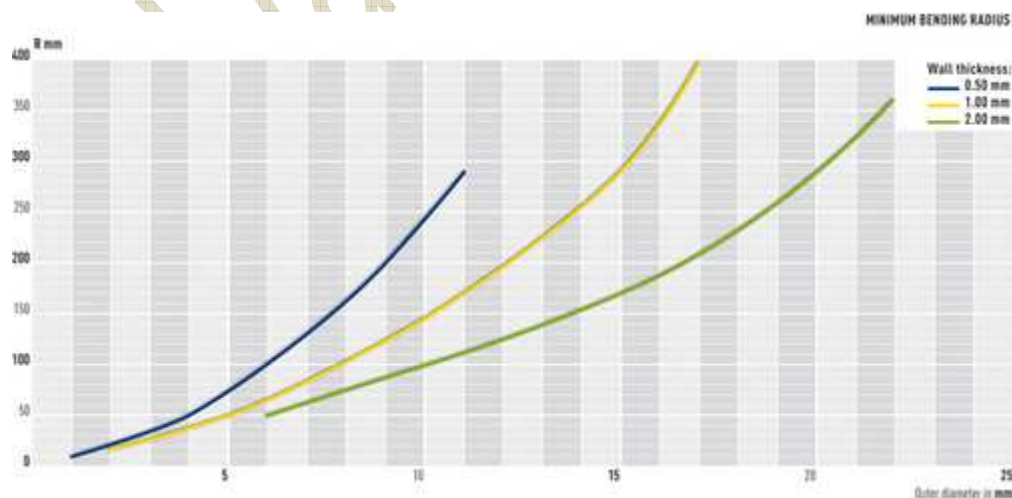
Following formula is the rule of thumb to calculate bend radius:

Rule of thumb for the bending radius:

$$\frac{\text{outer}^2 - \emptyset}{\text{wall thickness}} = \text{min. bending radius}$$

As reference value, the smallest possible bending radius can be determined by the square of the outer diameter divided by the wall thickness.

Use the following graph to calculate the minimum bend radius. The horizontal axis represents outer diameter and vertical axis represents minimum bend radius.



PTFE Tubing applications

PTFE tubing & hoses are used in the following industries:

Industry	PTFE Tubing Application	Media
AIR CONDITIONING	Dehydration lines for steam purging prior to filling with refrigerant	Hot gas
BAKERIES	Heating supply lines to batter mixing kettles	Steam
BOTTLE MAKING	Powerlines, hot bottle stacking machine	Air
BREATHING APPARATUS	Cylinder to pressure gauge or demand valve	Compressed air or oxygen
CANNING	Beer can sealant lines Charging line for pressurising aerosols	Hot adhesive Nitrous oxide
CAR, BUS, AND TRUCK	Coolant lines to can support racks, automatic soldering machine Brake clutch, fuel and sump hoses for high performance cars (rally and racing models) Radiator hoses Turbocharger installation Alternative fuel vehicles	Water Hydraulic brake fluid Clutch and brake fluid, fuel and oil Cooling water Oil drain CNG/LPG
CARTON MAKING	Supply lines on milk carton manufacturing machines	Hot waxes and adhesives (non-toxic)
CHEMICAL	Chemical transfer hoses	Various acids alkalis, solvents, hydrocarbons etc.
COSMETICS	Transfer hose	Powders and oils
DISTILLING	Barrel filling	Whiskey
ELECTRONICS	Coolant lines for electronic racks and equipment	Water
FOOD	Deep frying oil and fat recirculating racks and systems Transfer lines for corn syrup processing Heat supply lines, individual jam packaging machines	Hot edible animal and vegetable oils and fats Glutamates Steam
INDUSTRIAL GASES	Cylinder charging PTFE hoses/tubes often "cleaned" for H.P. oxygen	Oxygen / nitrogen / argon / acetylene / helium etc.
LAUNDRY / DRY CLEANING	Steam line on laundry presses and irons	Steam
MARINE	Hydraulic control and power systems (steering gear etc) Condensate lines	Fire resistant and water emulsion hydraulic fluids Steam
MOTORCYCLES	Hydraulic clutch, brake and oil	Clutch and brake fluid, oil transfer
OIL	Transfer Hose	Crude Oil, Salt Water
PACKAGING INDUSTRY	Adhesive lines for sealing	Industrial Solvents
PAINT SPRAYING	Supply lines, airless spraying systems	Paint, lacquers, organic solvents
POWER STATIONS	Feed lines to burners	Fuel Oil
PRESS AND INJECTION MOULDING MACHINES	Heating and cooling lines to platen presses and injection moulding heads	Alternating steam and cold water
PROCESS PLANT	Transfer hose cooling and/or heating hose, ventilation pipe	Slurry, distillates, plating solutions, water, oil, air, partial vacuum
REFRIGERATION	Plate freezers, chiller cabinets, capillary lines	Brine, refrigerant fluids
SHOE MAKING	Supply lines on sole cementing machine	Hot adhesives and cement
TELEVISION / RADIO	Non-conductive cooling hoses on transmitters	Water, steam, air
TEST RIGS	Highly flexible large bore transfer hose	Water, air, hydraulic oil, vacuum
TEXTILES (PROCESS PLANT)	Heating lines on dryers, (similar to paper making industry)	Steam
TYRE AND TUBE MANUFACTURING	Heating lines on tyre press machines	Steam
TYRE REMOULDING	Heating lines on retreading machines	Steam
URETHANE FOAM MANUFACTURING	Supply lines on foam making machines	Hot resins and activators, at high pressures

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